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ABSTRACT

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University of Minnesota

Research Report No. 130

THE TECHNICAL ADEQUACY OF A BASAL READING MASTERY TEST: THE HOLT BASIC READING SERIES

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THE TECHNICAL ADEQUACY OF A BASAL READING MASTERY TEST: THE HOLT BASIC READING SERIES

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July, 1983

Abstract

The purpose of this study was to examine the reliability and validity of a basal reading series mastery test. Subjects were 21 fourth graders, who were tested once on the SRA Reading Achievement Test, twice on the Holt Basic Reading Series Management Program Level 13 Test (MPLT), and once on the Word Reading Test. Traditional psychometric correlational analyses were applied to the data to investigate the following dimensions of the technical adequacy of the MPLT: (a) test-retest reliability, (b) criterion-related validity with respect to two other measures of reading proficiency, and (c) convergent and discriminant validity. Results indicated criterion-related validity of the MPLT was acceptable, but questioned the test-retest reliability and the convergent and discriminant validity. Implications for the development and use of criterion-referenced tests are discussed.

The Technical Adequacy of a Basal Reading Mastery Test:

The Holt Basic Reading Series

The development and use of criterion-referenced tests have proliferated in the past two decades. Traditional norm-referenced measurement has been criticized severely because it typically is global and lacks content and face validity with respect to school programs. As an alternative, criterion-referenced tests frequently are isomorphic with respect to classroom curriculum.

Despite, or perhaps due to such high content and face validity, there has been scant empirical investigation of psychometric characteristics of criterion-referenced tests. Inspection of eight commercial criterion-referenced tests and four basal reading mastery tests (Tindal, Shinn, Fuchs, Fuchs, Deno, & Germann, 1983) revealed that only one-third of test manuals addressed reliability and validity at all and authors of only two tests investigated more than one aspect of psychometric adequacy.

Recent investigations of available criterion-referenced basal reading mastery tests (Fuchs, Tindal, Shinn, Fuchs, Deno, & Germann, 1983; Tindal, Fuchs, Fuchs, Shinn, Deno, & Germann, 1983; Tindal, Shinn, Fuchs, Fuchs, Deno, & Germann, 1983) document traditional psychometric wisdom: Face and content validity are not synonymous with technical adequacy. The reliability and validity of a mastery test from the Houghton-Mifflin reading series were less than adequate for the decoding and comprehension test scales (Tindal, Shinn, Fuchs, Fuchs, Deno, & Germann, 1983). The adequacy of a Ginn 720 mastery test was acceptable for the total test score, but variable for the subtests (Fuchs et al., 1983), and the reliability and validity of a

Scott-Foresman mastery test was fairly high (Tindal, Fuchs, Fuchs, Shinn, Deno, & Germann, 1983). Such findings underscore the necessity for investigating psychometric properties of each criterion-referenced test separately. Therefore, the purpose of the current study was to examine the reliability and validity of another basal series mastery test, one in the Holt Basic Reading Program Series.

Method

Subjects

Subjects were 21 students (8 M, 13 F) from one fourth grade class representing a school district within a rural midwestern cooperative. The students' mean reading percentile rank was 49.4 (SD = 24.1) as measured on the Science Research Associates (SRA) Reading Achievement Test.

Measures

Three measures of reading performance were used in the study: a basal series criterion-referenced test, a global norm-referenced test, and a curriculum-based word reading test.

Criterion-referenced test. Four scales of the Management Program Level Test (MPLT; Rosenbaum & O'Desky, 1980), Level 13 of the Holt Basic Reading series were employed as measures. Each of the four scales, Comprehension/Literary Skills, Decoding/Encoding Skills, Language Skills, and Study Skills, is comprised of subtests. Table 1 lists the subtests constituting each scale and provides brief descriptions of tasks the examinee is required to do within subtests. This MPLT is criterion-referenced, with items per subtest ranging from 4 to 20, with items per scale ranging from 12 to 40, and with mastery-

nonmastery cutoff scores on scales established at 67% to 74% correct responses.

Insert Table 1 about here

Norm-referenced test. The Science Research Associates (SRA) Reading Achievement Test (Naslund, Thorpe, & Lefever, 1978) is comprised of two subtests: vocabulary and comprehension. In the vocabulary section, examinees are required to select, from four alternatives, a synonym for an underlined word in a sentence. In the comprehension section, examinees read 200-300 word passages and answer questions in a multiple choice format. Total test score is based on a linear combination of the two subtests. Internal consistency reliability was reported at .88 (Salvia & Ysseldyke, 1981).

Curriculum-based word reading test. The Word Reading Test (Deno, Mirkin, & Chiang, 1982) requires children to read aloud passages and isolated word lists and is scored in terms of average numbers of words correct and incorrect over two alternate forms of the Isolated Word Reading and Passage Reading scales. The 200-word passages are drawn randomly from a student's grade appropriate basal reading book; the 150-word lists sample words randomly from the basals, with 60% of the words drawn from the student's grade appropriate level and 40% sampled equally from all previous levels. For the passage and isolated Word Reading Test, test-retest and alternate form reliabilities were at least .90 (Fuchs, Deno, & Marston, in press; Fuchs, Wesson, Tindal, Mirkin, & Deno, 1981).

Procedure

All students were tested in groups by a school psychologist on the SRA Reading Achievement Test, and by their classroom teacher on the MPLT. The Word Reading Test was administered individually by trained aides. Standardized administration procedures were adhered to on all tests. Testing time ranged from 60 to 90 minutes for the SRA Test, 60 to 90 minutes for the MPLT, and five to six minutes for the Word Reading Test. Students were administered the following measures in the following order within a two-week period: The MPLT, the SRA Reading Achievement Test, the Word Reading Test, and the MPLT again.

Data Analysis

Test-retest reliability was assessed by correlating scores from the two administrations of the MPLT. Criterion validity was determined by correlating MPLT scores with two criterion measures, the SRA Reading Achievement Test and the Word Reading Test. Finally, convergent and discriminant validity was explored by examining correlations among MPLT scales and correlations among scale subtests and between subtest scores with their respective scale scores.

Results

Table 2 is a display of students' mean scores and standard deviations on the subtest and total scores of the SRA Reading Achievement Test, on the isolated word reading and passage reading scales of the Word Reading Test, and on each subtest and scale as well as the total of the MPLT.

Insert Table 2 about here

Test-retest reliability

Test-retest reliability coefficients are displayed in Table 3. They ranged from .20 for the Language Skills scale to .79 for the Comprehension/Literary Skills scale. For the total test, test-retest reliability was .77.

Insert Table 3 about here

Criterion-related Validity

Correlational analyses were conducted between the MPLT scales and two criterion measures, the SRA Reading Achievement Test and the Word Reading Test. Correlations between the MPLT scales and the SRA subscale and total test scores are displayed in Table 4. They ranged from .62 to .90 when SRA vocabulary subtest scores were involved; from .71 to .90 when SRA comprehension subtest scores were employed; and from .72 to .95 when SRA total score was used. The median correlation for MPLT Comprehension/Literary Skills scale was .82; for Decoding/Encoding Skills, .71; for Language Skills, .71; and for Study Skills, .81. For the total test score, the median correlation was .90.

Insert Table 4 about here

Correlations between the MPLT scales and the Word Reading Test scale scores are displayed in Table 5. They ranged from .55 to .75 when isolated word reading score was involved, and from .46 to .86 when passage reading score was employed. The median correlation for the MPLT Comprehension Literary Skills scale was .770; for the MPLT Decoding/Encoding Skills scale, .695; for the MPLT Language Skills scale, .505; and for the MPLT Study Skills scale, .575. The median correlation for the Total Test Score was .805.

Insert Table 5 about here

Convergent and Discriminant Validity

Correlations among the MPLT scales and between the scales and total score are presented in Table 6; correlations among subtest scores and between subtest and respective scale scores are displayed for each of the four scales in Tables 7-10. Between the MPLT scales, correlations ranged from .53 to .73. Scale scores correlated with the total score between .77 and .94.

Insert Tables 6-10 about here

Within the Comprehension/Literary Skills scale (see Table 7), intersubtest correlations fell between .25 and .55. Subtests correlated with the total scale score an average .72 (SD = .14). The three Decoding/Encoding subtest correlations (see Table 8) were -.59, -.28, and .69. The average correlation between the subtest and scale

scores was .54 (SD = .47). For the Language Skills scale (see Table 9), intersubtest correlations ranged from .10 to .39, and the average correlation between the subtest and scale scores was .69 (SD = .11). Intersubtest correlations for the Study Skills scale (see Table 10) ranged between -.23 and .56; the average correlation between the subtest and scale scores was .68 (SD = .18). To summarize this information concerning the convergent and discriminant validity of the MPLT, Table 11 displays ranges of correlations for each scale (a) with other scales, (b) with its own subtests, and (c) among its subtests.

Insert Table 11 about here

Discussion

The purpose of the current study was to describe the reliability and validity of a basal reading series, criterion-referenced mastery test. The study examined three aspects of the technical adequacy of the Holt Basic Reading Series Management Program Level Test (Level 13): (a) test-retest reliability, (b) criterion-related validity with respect to two other measures of reading proficiency, which have demonstrated psychometric strength, and (c) convergent and discriminant validity. Results suggested that the technical adequacy of the Holt MPLT was variable, with many indices less than adequate.

Test-retest reliability coefficients indicated that, when the MPLT was administered twice within a short time interval, student performance was inconsistent. None of the correlations obtained for the scales or for the total test fell within the acceptable range even for making group decisions (Salvia & Ysseldyke, 1981).

Correlational analyses indicated that the criterion-related validity of the MPLT with respect to the SRA Reading Achievement Test was good, with 63% of correlations between the MPLT and the SRA subtests falling above .70 and 38% above .80. Correlations for the Comprehension/Literary Skills scale were consistently highest. With the Word Reading Test, correlations between the MPLT and the Word Reading Test scales were somewhat lower, with 38% falling above .70 and none above .80. Again, correlations for the Comprehension/Literary Skills scale were consistently highest. Analysis of Table 1 reveals that tasks on the Comprehension/Literary Skills scale are most global, requiring examinees on three of four subtests to read paragraphs and answer multiple choice questions (as is done on the SRA Comprehension Scale), and on the fourth subtest to provide synonyms for underlined words (as is done on the SRA Vocabulary Scale). Therefore, it is not surprising that correlations for this Comprehension/Literary scale were higher than for other MPLT scales, for which test behaviors are more discrete and less similar to tasks on either criterion measure of reading achievement. Results suggest that performance on the MPLT, especially the Comprehension/Literary Skills scale, predicts concurrent performance on more global measures of reading proficiency moderately well.

The convergent and discriminant validity of the MPLT appeared to be less adequate. Correlations between the different scales were similar in range to that of correlations between scales and their own subtests. Further, correlations among subtests within each scale were comparatively low. These results suggest that the MPLT scales may not

measure separate, distinct variables. Of course, in interpreting these findings, a note of caution is necessary: Correlations among subtests and between subtests and scales may fall low relative to the between-scale statistics due to the comparatively few items and restricted range of subtests.

Additionally, analyses employed in the present investigation were traditional correlational approaches to the study of psychometric characteristics. Such traditional ways of assessing test adequacy have been criticized as largely inappropriate for criterion-referenced instruments (Popham & Husek, 1969). Nevertheless, findings of previous studies, which employed both traditional and alternative, criterion-referenced strategies for studying psychometric characteristics (Fuchs et al., 1983; Tindal, Shinn, Fuchs, Fuchs, Deno, & Germann, 1983; Tindal, Fuchs, Fuchs, Shinn, Deno, & Germann, 1983), indicated that results from the two strategies support each other. This suggests that one can interpret the traditional correlational findings of this study as meaningful. Of course, criterion-referenced analyses of the technical adequacy of the MPLT would provide useful, additional descriptive information.

Consequently, the current study suggests that the Holt MPLT varied in quality. For predicting global reading proficiency, the MPLT appeared useful. However, for making decisions about student placement and progress within the curriculum, results were less favorable. Test-retest reliability of the MPLT was unacceptably low, and the convergent and discrminant validity suggested problems in interpreting scale scores meaningfully. This indicates that (a)

educators should use the MPLT with caution for making decisions about mastery in the curriculum, and (b) test developers at Holt might consider reexamining the test. Additionally, this study adds to a growing body of evidence (Fuchs et al., 1983; Tindal, Fuchs, Fuchs, Shinn, Deno, & Germann, 1983; Tindal, Shinn, Fuchs, Fuchs, Deno, & Germann, 1983) suggesting that, despite the high content and face validity of criterion-referenced tests, their meaningfulness and accuracy remain empirical questions. Test consumers must demand such empirical validation before relying on criterion-referenced test data for making instructional decisions.

References

Deno, S. L., Mirkin, P. K., & Chiang, B. Identifying valid measures of reading. Exceptional Children, 1982, 49(1), 36-45.

Fuchs, L. S., Deno, S. L., & Marston, D. Improving the reliability of curriculum-based measures of academic skills for psychoeducational decision making. Diagnostique, in press.

Fuchs, L. S., Wesson, C., Tindal, G., Mirkin, P. K., & Deno, S. L. Teacher efficiency in continuous evaluation of IEP goals (Research Report No. 53). Minneapolis: University of Minnesota, Institute for Research on Learning Disabilities, 1981. (ERIC Document Reproduction Service No. 215 467)

Fuchs, L., Tindal, G., Shinn, M., Fuchs, D., Deno, S., & Germann, G. The technical adequacy of a basal reading mastery test: The Ginn 720 series (Research Report No. 122). Minneapolis: University of Minnesota, Institute for Research on Learning Disabilities, 1983.

Naslund, R. A., Thorpe, L. P., & Lefever, D. W. SRA achievement series: Reading, mathematics, and language arts. Chicago: Science Research Associates, 1978.

Popham, W. J., & Husek, T. R. Implications of criterion-referenced measurement. Journal of Educational Measurement, 1969, 6, 1-9.

Rosenbaum, P. S., & O'Desky, L. Management program level test: Level 13, Time to Wonder. New York: Holt, Rinehart, & Winston, 1980.

Salvia, J., & Ysseldyke, J. E. Assessment in special and remedial education (2nd ed.). Boston: Houghton-Mifflin, 1981.

Tindal, G., Fuchs, L., Fuchs, D., Shinn, M., Deno, S., & Germann, G. The technical adequacy of a basal reading mastery test: The Scott-Foresman series (Research Report No. 128). Minneapolis: University of Minnesota, Institute for Research on Learning Disabilities, 1983.

Tindal, G., Shinn, M., Fuchs, L., Fuchs, D., Deno, S., & Germann, G. The technical adequacy of a basal series reading mastery test (Research Report No. 113). Minneapolis: University of Minnesota, Institute for Research on Learning Disabilities, 1983.

Table 1

Examinees' Tasks on the Holt Basic Reading MPLT

Scale	Examinees' Tasks
Comprehension/Literary Skills	
Subtests 1-3	Read stories and answer multiple choice questions concerning sequence of events, setting, identifying roles, identifying plot, inferring theme, inference, identifying fact vs. opinion, recalling details, gleaning vocabulary via context clues, identifying main ideas, identifying realism vs. fantasy, and identifying similies vs. metaphors.
Subtest 4	Read a sentence with an underlined word. From an array of four choices, select a synonym for the underlined word.
Decoding/Encoding Skills	
Subtests 1-2	Given a key word with an underlined sound, select from among four choices, those words which contain the sound. (Included sounds are: [ae], [e], [i], [a], [a], [ir], [ar], [or].)
Subtest 3	Given a two-syllable key word, select the correct syllabic division from two choices.
Language Skills	
Subtest 1	Given a key word, identify an antononymous prefix, from an array of four choices.
Subtest 2	Given a declarative sentence, identify from an array of four choices, the first word of the question form of the sentence.
Subtest 3	Given a compound sentence, select the pair of sentences that were combined to make the compound sentence, from an array of three pairs.
Study Skills	
Subtest 1	Given three words with a space preceding and following each word and given a fourth word, select the space where the fourth word fits alphabetically.

Table 1 (continued)

Scale	Examinees' Tasks
Subtest 2	Given a word and four pairs of dictionary guide words, select the guide words that would be found on the dictionary page containing the word.
Subtest 3	Answer multiple choice questions concerning locating words in a dictionary and dictionary structure.
Subtest 4	Answer multiple choice questions concerning references in encyclopedia volumes, and facts about encyclopedias.

Table 2

Student Performance on Measures of Reading Achievement

Test	Mean	SD
SRA Reading Achievement Test (N = 20)		
Vocabulary	26.1	6.5
Comprehension	29.1	9.8
Total	55.1	15.1
Word Reading Test (N = 21)		
Isolated Word Reading	62.1	21.5
Passage Reading	124.0	42.5
Holt Basic Reading MPLT (N = 19)		
Comprehension/Literary Skills	26.1	5.9
Subtest 1	5.4	1.6
Subtest 2	3.1	1.6
Subtest 3	2.3	1.2
Subtest 4	15.1	3.1
Decoding/Encoding Skills	14.1	2.1
Subtest 1	6.2	1.2
Subtest 2	6.4	1.4
Subtest 3	1.9	1.1
Language Skills	7.9	2.1
Subtest 1	2.3	0.9
Subtest 2	2.3	1.2
Subtest 3	3.4	1.0
Study Skills	13.6	3.3
Subtest 1	2.6	1.2
Subtest 2	2.6	0.8
Subtest 3	2.8	1.0
Subtest 4	5.6	1.6
Total Test	62.1	11.7

Table 3

Test-retest Reliabilities for Holt Basic Reading Test (N=18)

Scale	Reliability
Comprehension/Literary Skills	.79
Decoding/Encoding Skills	.68
Language Skills	.20
Study Skills	.45
Total Test	.77

Table 4

Correlations Between Holt Basic Reading MPLT and SRA Test Scores (N=19)

Holt Scale	SRA Vocabulary	SRA Comprehension	SRA Total
Comprehension/Literary Skills	.90	.82	.91
Decoding/Encoding Skills	.62	.71	.72
Language Skills	.69	.71	.75
Study Skills	.64	.81	.80
Total Test	.87	.90	.95

Table 5

Correlations Between Holt Basic MPLT and Word Reading Test Scores (N = 19)

Holt Scales	Word Reading Test	
	Isolated Words	Passages
Comprehension/Literary Skills	.75	.79
Decoding/Encoding Skills	.64	.75
Language Skills	.55	.46
Study Skills	.57	.58
Total Test	.75	.86

Table 6

Relations Among Holt Basic Reading MPLT Scale and Total Test Scores (N = 19)

Holt Scales	Comprehension Literary	Decoding/ Encoding	Language	Study	Total
Comprehension/Literary		.68	.61	.73	.94
Decoding/Encoding			.53	.53	.77
Language				.66	.77
Study					.86

Table 7

Relations Among Comprehension/Literary Skills Subtest and Scale Scores (N = 19)

Subtests	Subtests 1	2	3	4	Scale
1		.25	.25	.54	.66
2			.36	.50	.65
3				.55	.65
4					.94

Table 8

Relations Among Decoding/Encoding Skills Subtest and Scale Scores (N = 19)

Subtests	Subtests 1	2	3	Scale
1		.69	-.28	.87
2			-.59	.74
3				.00

Table 9

Relations Among Language Skills Subtest and Scale Scores (N = 19)

Subtests	Subtests 1	2	3	Scale
1		.39	.14	.70
2			.10	.79
3				.57

Table 10

Relations Among Study Skills Subtest and Scale Scores (N = 19)

Subtests	Subtests 1	2	3	4	Scale
1		.56	.42	.48	.86
2			-.23	.34	.53
3				.23	.52
4					.82

Table 11

Ranges of Correlations for Each Scale With Scales, With Its Subtests, and Among Its Subtests

Scale	Ranges of Correlations		
	With Scales	With Own Subtests	Among Subtests
Comprehension/Literary	.68 - .73	.65 - .94	.25 - .55
Decoding/Encoding	.53 - .68	.00 - .87	-.59 - .69
Language	.53 - .66	.57 - .79	.10 - .39
Study	.53 - .73	.52 - .86	-.23 - .56

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Fuchs, L., Wesson, C., Tindal, G., Mirkin, P., & Deno, S. Instructional changes, student performance, and teacher preferences: The effects of specific measurement and evaluation procedures (Research Report No. 64). January, 1982.

Potter, M., & Mirkin, P. Instructional planning and implementation practices of elementary and secondary resource room teachers: Is there a difference? (Research Report No. 65). January, 1982.

Thurlow, M. L., & Ysseldyke, J. E. Teachers' beliefs about LD students (Research Report No. 66). January, 1982.

Graden, J., Thurlow, M. L., & Ysseldyke, J. E. Academic engaged time and its relationship to learning: A review of the literature (Monograph No. 17). January, 1982.

King, R., Wesson, C., & Deno, S. Direct and frequent measurement of student performance: Does it take too much time? (Research Report No. 67). February, 1982.

Greener, J. W., & Thurlow, M. L. Teacher opinions about professional education training programs (Research Report No. 68). March, 1982.

Algozzine, B., & Ysseldyke, J. Learning disabilities as a subset of school failure: The oversophistication of a concept (Research Report No. 69). March, 1982.

Fuchs, D., Zern, D. S., & Fuchs, L. S. A microanalysis of participant behavior in familiar and unfamiliar test conditions (Research Report No. 70). March, 1982.

Shinn, M. R., Ysseldyke, J., Deno, S., & Tindal, G. A comparison of psychometric and functional differences between students labeled learning disabled and low achieving (Research Report No. 71). March, 1982.

Thurlow, M. L. Graden, J., Greener, J. W., & Ysseldyke, J. E. Academic responding time for LD and non-LD students (Research Report No. 72). April, 1982.

Graden, J., Thurlow, M., & Ysseldyke, J. Instructional ecology and academic responding time for students at three levels of teacher-perceived behavioral competence (Research Report No. 73). April, 1982.

Algozzine, B., Ysseldyke, J., & Christenson, S. The influence of teachers' tolerances for specific kinds of behaviors on their ratings of a third grade student (Research Report No. 74). April, 1982.

Wesson, C., Deno, S., & Mirkin, P. Research on developing and monitoring progress on IEP goals: Current findings and implications for practice (Monograph No. 18). April, 1982.

Mirkin, P., Marston, D., & Deno, S. L. Direct and repeated measurement of academic skills: An alternative to traditional screening, referral, and identification of learning disabled students (Research Report No. 75). May, 1982.

Algozzine, B., Ysseldyke, J., Christenson, S., & Thurlow, M. Teachers' intervention choices for children exhibiting different behaviors in school (Research Report No. 76). June, 1982.

Tucker, J., Stevens, L. J., & Ysseldyke, J. E. Learning disabilities: The experts speak out (Research Report No. 77). June, 1982.

Thurlow, M. L., Ysseldyke, J. E., Graden, J., Greener, J. W., & Mecklenberg, C. Academic responding time for LD students receiving different levels of special education services (Research Report No. 78). June, 1982.

Graden, J. L., Thurlow, M. L., Ysseldyke, J. E., & Algozzine, B. Instructional ecology and academic responding time for students in different reading groups (Research Report No. 79). July, 1982.

Mirkin, P. K., & Potter, M. L. A survey of program planning and implementation practices of LD teachers (Research Report No. 80). July, 1982.

Fuchs, L. S., Fuchs, D., & Warren, L. M. Special education practice in evaluating student progress toward goals (Research Report No. 81). July, 1982.

Kuehnle, K., Deno, S. L., & Mirkin, P. K. Behavioral measurement of social adjustment: What behaviors? What setting? (Research Report No. 82). July, 1982.

Fuchs, D., Dailey, Ann Madsen, & Fuchs, L. S. Examiner familiarity and the relation between qualitative and quantitative indices of expressive language (Research Report No. 83). July, 1982.

Videen, J., Deno, S., & Marston, D. Correct word sequences: A valid indicator of proficiency in written expression (Research Report No. 84). July, 1982.

Potter, M. L. Application of a decision theory model to eligibility and classification decisions in special education (Research Report No. 85). July, 1982.

Greener, J. E., Thurlow, M. L., Graden, J. L., & Ysseldyke, J. E. The educational environment and students' responding times as a function of students' teacher-perceived academic competence (Research Report No. 86). August, 1982.

Deno, S., Marston, D., Mirkin, P., Lowry, L., Sindelar, P., & Jenkins, J. The use of standard tasks to measure achievement in reading, spelling, and written expression: A normative and developmental study (Research Report No. 87). August, 1982.

Skiba, R., Wesson, C., & Deno, S. L. The effects of training teachers in the use of formative evaluation in reading: An experimental-control comparison (Research Report No. 88). September, 1982.

Marston, D., Tindal, G., & Deno, S. L. Eligibility for learning disability services: A direct and repeated measurement approach (Research Report No. 89). September, 1982.

Thurlow, M. L., Ysseldyke, J. E., & Graden, J. L. LD students' active academic responding in regular and resource classrooms (Research Report No. 90). September, 1982.

Ysseldyke, J. E., Christenson, S., Pianta, R., Thurlow, M. L., & Algozzine, B. An analysis of current practice in referring students for psychoeducational evaluation: Implications for change (Research Report No. 91). October, 1982.

Ysseldyke, J. E., Algozzine, B., & Epps, S. A logical and empirical analysis of current practices in classifying students as handicapped (Research Report No. 92). October, 1982.

Tindal, G., Marston, D., Deno, S. L., & Germann, G. Curriculum differences in direct repeated measures of reading (Research Report No. 93). October, 1982.

Fuchs, L.S., Deno, S. L., & Marston, D. Use of aggregation to improve the reliability of simple direct measures of academic performance (Research Report No. 94). October, 1982.

Ysseldyke, J. E., Thurlow, M. L., Mecklenburg, C., & Graden, J. Observed changes in instruction and student responding as a function of referral and special education placement (Research Report No. 95). October, 1982.

Fuchs, L. S., Deno, S. L., & Mirkin, P. K. Effects of frequent curriculum-based measurement and evaluation on student achievement and knowledge of performance: An experimental study (Research Report No. 96). November, 1982.

Fuchs, L. S., Deno, S. L., & Mirkin, P. K. Direct and frequent measurement and evaluation: Effects on instruction and estimates of student progress (Research Report No. 97). November, 1982.

Tindal, G., Wesson, C., Germann, G., Deno, S. L., & Mirkin, P. K. The Pine County model for special education delivery: A data-based system (Monograph No. 19). November, 1982.

Epps, S., Ysseldyke, J. E., & Algozzine, B. An analysis of the conceptual framework underlying definitions of learning disabilities (Research Report No. 98). November, 1982.

Epps, S., Ysseldyke, J. E., & Algozzine, B. Public-policy implications of different definitions of learning disabilities (Research Report No. 99). November, 1982.

Ysseldyke, J. E., Thurlow, M. L., Graden, J. L., Wesson, C., Deno, S. L., & Algozzine, B. Generalizations from five years of research on assessment and decision making (Research Report No. 100). November, 1982.

Marston, D., & Deno, S. L. Measuring academic progress of students with learning difficulties: A comparison of the semi-logarithmic chart and equal interval graph paper (Research Report No. 101). November, 1982.

Beattie, S., Grise, P., & Algozzine, B. Effects of test modifications on minimum competency test performance of third grade learning disabled students (Research Report No. 102). December, 1982

Algozzine, B., Ysseldyke, J. E., & Christenson, S. An analysis of the incidence of special class placement: The masses are burgeoning (Research Report No. 103). December, 1982.

Marston, D., Tindal, G., & Deno, S. L. Predictive efficiency of direct, repeated measurement: An analysis of cost and accuracy in classification (Research Report No. 104). December, 1982.

Wesson, C., Deno, S., Mirkin, P., Sevcik, B., Skiba, R., King, R., Tindal, G., & Maruyama, G. Teaching structure and student achievement effects of curriculum-based measurement: A causal (structural) analysis (Research Report No. 105). December, 1982.

Mirkin, P. K., Fuchs, L. S., & Deno, S. L. (Eds.). Considerations for designing a continuous evaluation system: An integrative review (Monograph No. 20). December, 1982.

Marston, D., & Deno, S. L. Implementation of direct and repeated measurement in the school setting (Research Report No. 106). December, 1982.

Deno, S. L., King, R., Skiba, R., Sevcik, B., & Wesson, C. The structure of instruction rating scale (SIRS): Development and technical characteristics (Research Report No. 107). January, 1983.

Thurlow, M. L., Ysseldyke, J. E., & Casey, A. Criteria for identifying LD students: Definitional problems exemplified (Research Report No. 108). January, 1983.

Tindal, G., Marston, D., & Deno, S. L. The reliability of direct and repeated measurement (Research Report No. 109). February, 1983.

Fuchs, D., Fuchs, L. S., Dailey, A. M., & Power, M. H. Effects of pre-test contact with experienced and inexperienced examiners on handicapped children's performance (Research Report No. 110). February, 1983

King, R. P., Deno, S., Mirkin, P., & Wesson, C. The effects of training teachers in the use of formative evaluation in reading: An experimental-control comparison (Research Report No. 111). February, 1983.

Tindal, G., Deno, S. L., & Ysseldyke, J. E. Visual analysis of time series data: Factors of influence and level of reliability (Research Report No. 112). March, 1983.

Tindal, G, Shinn, M., Fuchs, L., Fuchs, D., Deno, S., & Germann, G. The technical adequacy of a basal reading series mastery test (Research Report No. 113). April, 1983.

Sevcik, B., Skiba, R., Tindal, G., King, R., Wesson, C., Mirkin, P., & Deno, S. Communication of IEP goals and student progress among parents, regular classroom teachers, and administrators using systematic formative evaluation (Research Report No. 114). April, 1983.

Wesson, C. Two student self-management techniques applied to data-based program modification (Research Report No. 115). April, 1983.

Wesson, C., Skiba, R., Sevcik, B., King, R., Tindal, G., Mirkin, P., & Deno, S. The impact of the structure of instruction and the use of technically adequate instructional data on reading improvement (Research Report No. 116). May, 1983.

Wesson, C. Teacher vs student selection of instructional activities (Research Report No. 117). May, 1983.

Tindal, G., & Deno, S. Factors influencing the agreement between visual and statistical analyses of time series data (Research Report No. 118). June, 1983.

Skiba, R. S. Classroom behavior management: A review of the literature (Monograph No. 21), June, 1983.

Graden, J. L., Thurlow, M. L., & Ysseldyke, J. E. When are students most academically engaged? Academic responding time in different instructional ecologies (Research Report No. 119). June, 1983.

Fuchs, L. S., Deno, S. L., & Roettger, A. The effect of alternative data-utilization rules on spelling achievement: An n of 1 study (Research Report No. 120). June, 1983.

Skiba, R., Sevcik, B., Wesson, C., King, R., & Deno, S. The non-effect of process-product variables in resource classrooms (Research Report No. 121). June, 1983.

Fuchs, L. Tindal, G., Fuchs, D., Deno, S., & Germann, G. Technical adequacy of basal readers' mastery tests: The Ginn 720 series (Research Report No. 122). June, 1983.

Tindal, G., Germann, G., Marston, D., & Deno, S. The effectiveness of special education: A direct measurement approach (Research Report No. 123). June, 1983.

Sevcik, B., Skiba, R., Tindal, G., King, R., Wesson, C., Mirkin, P., & Deno, S. Curriculum-based measurement: Effects on instruction, teacher estimates of student progress, and student knowledge of performance (Research Report No. 124). July, 1983.

Skiba, R., Marston, D., Wesson, C., Sevcik, B., & Deno, S. L. Characteristics of the time-series data collected through curriculum-based reading measurement (Research Report No. 125). July, 1983.

Ysseldyke, J., Christenson, S., Graden, J., & Hill, D. Practical implications of research on referral and opportunity to learn (Monograph No. 22). July, 1983.

Marston, D., Deno, S., & Tindal, G. A comparison of standardized achievement tests and direct measurement techniques in measuring pupil progress (Research Report No. 126). July, 1983.

Fuchs, D., Fuchs, L. S., Tindal, G., & Deno, S. L. Variability of performance: A "signature" characteristic of learning disabled children? (Research Report No. 127). July, 1983.

Tindal, G., Fuchs, L., Fuchs, D., Shinn, M., Deno, S., & Germann, G. The technical adequacy of a basal series mastery test: The Scott-Foresman reading program (Research Report No. 128). July, 1983.

Fuchs, L. S., Fuchs, D., & Deno, S. L. The nature of inaccuracy among readability formulas (Research Report No. 129). July, 1983.

Fuchs, L., Tindal, G., Fuchs, D., Shinn, M., Deno, S., & Germann, G. The technical adequacy of a basal reading mastery test: The Holt basic reading series (Research Report No. 130). July, 1983.